

FOREWORD

Media Alliance is a nonprofit membership organization that works to develop the media arts field in all its diversity. Activity is divided among the following areas: expanding resources, support and outlets for the independent media arts; facilitating networking and information-sharing about issues and opportunities; and providing programs and services that respond to membership needs.

As part of a long-term advocacy plan, Media Alliance launched an initiative to address the critical issue of video preservation in 1991. With advice from a steering committee comprised of members of New York's media arts community, we have been assessing the state of video preservation, coordinating an exchange of information among interested parties, promoting collaborative solutions to common problems, and stimulating national attention to the issue.

We began by identifying over 200 people involved in video preservation. We then surveyed institutions and individuals with video collections around the country, asking respondents to describe their collections and methods of management, their preservation efforts and modes of funding, and their ideas about the critical issues that lay ahead.

In partnership with the New York State Council on the Arts, Electronic Media and Film Program, Media Alliance convened a symposium at the Museum of Modern Art in New York on June 14, 1991. Key people concerned about video preservation were invited to discuss their experiences, share information, and make recommendations for the future.

To disseminate the information gathered at the symposium, an abbreviated report of the event was published in *The Independent* (October 1991), the journal of the Association of Independent Video and Filmmakers. This publication is an expanded and updated version of that earlier report.

We are most grateful for the vision and support of all who participated in this initiative. In particular we wish to thank Deborah Silverfine and Gerald Lindahl of the New York State Council on the Arts (NYSCA), who initiated assistance and advice which continued throughout the project. In addition, we wish to thank: Arthur Tsuchiya and Brian O'Doherty, National Endowment for the Arts (NEA); Julian Low, National Alliance for Media Arts and Culture (NAMAC); Catherine Egan, Consortium of College and University Media Centers (CCUMC); Charles Benton and Larry Kirkman, Benton Foundation; and Sally Jo Fifer, Bay Area Video Coalition (BAVC) for responding to our request for funding support. We also wish to thank the presenters at the symposium—Leanne Mella, Elizabeth Scheines, Mark Schubin, David Shulman, and Deborah Silverfine—whose knowledge sparked lively discussion and enthusiastic plans; to Mary Lea Bandy of the Museum of Modern Art, who extended the museum's hospitality to participants; to MoMA's Barbara London and Sally Berger, who organized a screening of restored video works; and to Skip Blumberg, Joan Jonas, and Philip Mallory Jones and the other artists whose participation reminded us that the independent perspectives revealed in their work are of central importance to this issue.

And finally, a very special thanks to Deirdre Boyle, author and consultant for Media Alliance, who sustained a broad perspective about video preservation issues and eloquently synthesized and articulated this information for our readers.

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SYMPOSIUM ON VIDEO PRESERVATION

On June 14, 1991 Keiko Tsuno, co-founder of Downtown Community Television Center (DCTV), left the symposium on video preservation early and hurried home because DCTV was celebrating its twentieth anniversary with a party that evening. When she arrived at the lower Manhattan production center, she discovered a clumsy plumber had put a two-by-four through a pipe, flooding DCTV's tape archive. Amidst party preparations staffers scrambled to rescue tapes and set them out to dry. Later that weekend, a fire occurred uptown at public television station WNET. The blaze knocked out phone lines and smoke penetrated basement rooms where videotapes are stored. These near catastrophes dramatically underscored the urgency of video preservation. Whether ominous coincidence or elemental warning, the alignment of these events made it clear: video is an endangered medium. If we are to safeguard video's multifaceted history, preservation must become a national priority.

Over 60 participants from as far away as San Francisco and Toronto gathered in the trustees' room at the Museum of Modern Art for the day-and-a-half long symposium, organized by the Media Alliance and the New York State Council on the Arts (NYSCA). Artists, activists, cataloguers, curators, distributors, and librarians attended the event, which began with an evening screening of early video art and documentary tapes selected by MoMA's Barbara London with Sally Berger. After the screening Joan Jonas, Skip Blumberg, and Philip Mallory Jones spoke briefly on the importance of video preservation from the maker's perspective. Hoisting an old AV portapak camera in one hand and a wooden hoop she used in early performance tapes in the other hand, Joan Jonas said how grateful she was the audience realized video's artistic and historic importance. Phil Jones, who organized the Ithaca Video Festival during the Seventies, admitted he had lost track of the whereabouts of much of his own early work. The following day he discovered several archives had copies of tapes he thought were lost forever. His experience pointed up a recurring theme throughout the symposium: the essential preservation partnership between video producers and archivists.

Unlike the world of film, which has developed a funding base and core of professionals to carry out its preservation mission, video has yet to develop such an infrastructure. The symposium was the first to convene key figures involved in independent video preservation. Its purpose was to identify and share information about collections; to network information on conservation, cataloging, and archiving techniques; to discuss priorities for future funding and services; and to interface with national archival initiatives.

COLLECTION MANAGEMENT

The morning session was devoted to issues of collection management and began with a report by this writer on the Media Alliance Survey of Video Collections. Next Elizabeth Scheines, systems manager and coordinator of the Program for Art on Film at the Metropolitan Museum of Art, spoke on how to organize and maintain a video collection. She began by explaining that assessment of a collection—going through the physical material to see what one has—is the first step in figuring out your priorities for preservation. The first component of preservation is to secure a proper storage facility. This need not be a thermal vault, but can begin with an air conditioner in the room where you store your tapes. Next, determine how you want to use your tapes. Even if a collection is just for personal use, she urged thinking of setting it up as a research facility, if only to do your own research. This will make it easier when you want to interface your information with others.

The third component is to set up some rudimentary cataloging system (any system is better than none at all). It is enough to begin with a card catalog containing titles, running times, format, artist names, where you acquired it, and where you are keeping it. Start by marking the boxes of all tapes with an accession number. Since some works are unfilled or duplicate other titles in a collection, accession number plus title will make life easier.

There are several logical approaches to shelving tapes. If it is your own work, chronological sequence may make sense. If you have a large collection of circulating (or playable) copies, then you will want to shelve this collection separately from your archival masters. Shelving schemes should be designed for maximum access to a collection for users and maximum safety for archival masters: Never shelve circulating and archival collections together.

STANDARD SYSTEMS?

Although standard cataloging systems are used, most people wind up devising their own. Computer software makes it relatively easy to customize a system. Scheines recommends dBase 3, dBase+ and dBase 4. In developing your own system, think ahead to who may be using it, not only today but in the future. You will want to share some information, but not all will be for public knowledge—eg. acquisition of rights information may be confidential—and this will affect how you program your PC. A good beginning is to be able to generate searches by title, artist, and accession number.

Standardized union cataloging systems exist in public libraries and museums, but they are geared to books and art objects, not videotapes. The Library of Congress set up MARC (machine-readable cataloging) as a national standard, and although it has been adapted to film and video, it is not ideal. The National Moving Image Database (NAMID), a project of the National Center for Film and Video Preservation (NCFVP), is a union system expressly designed for video and film. One advantage of interfacing with a union system is the ability to download cataloged information, saving time and effort over original cataloging when it already exists. If your title is a unique property, you may not be able to avail yourself of the time-saving properties of a union catalog, but sharing your information through a national database will help others search for information about tapes you hold.

Scheines doubts there will ever be a time when everyone has the same cataloging software and computer hardware, so there is no need to get rid of whatever system you already have. If you are beginning, you may want your computer software compatible with union software (eg. NAMID uses several software packages, including Minaret, which is MARC-compatible). Many wind up with two systems: an idiosyncratic internal cataloging system and a standardized external one, which is costly, inefficient, and cumbersome. But until there is an established, standardized, union cataloging system for video, Scheines recommends having both systems, however unorthodox the suggestion.

Standardization needs to be developed if we are to be able to search each other's databases, Scheines concluded. Being able to share information will help in identifying where tapes are located, deciding how to spend acquisition budgets, developing more targeted funding proposals, facilitating interlibrary loan of circulating tapes, and determining how best to allocate limited time and resources for preservation.

VIDEO "TRIAGE"

In the discussion that followed, video artist Tony Conrad raised the dilemma of how to assess a collection when tapes will not play. In response, David Shulman explained his "triage system," developed while producing an anthology of early portable video. When presented with a box of historic tapes that refused to play, he grilled the producers, jogging memories about what had been recorded, who shot it, and what was interesting about it. "While you'll miss things, it's one way of making decisions about what to restore," Shulman confided. Sally Berger, who worked with Shulman on the project, added that some producers are protective of their work and histories and may be reluctant to turn over unique copies of tapes to archivists or curators. Trust needs to be developed between artists and archivists if recuperation of the video past is to occur.

Kate Horsfield of the Chicago-based distributor, Video Data Bank, voiced concern about the fate of collections existing outside large institutions. Work already in distribution is most likely to be preserved, she asserted. "What we're doing is deciding history based on factors we're living in this minute. But history is larger than that...." Echoing Horsfield, video artist Jaime Davidovitch commented: "When we are archiving materials, we are making judgments. We are preserving some works and disregarding others. Who is responsible? Who are the gatekeepers to be?" The author, who served as discussion moderator, noted this topic alone was worthy of its own symposium.

Jon Gartenberg, MoMA film cataloger, passionately voiced concern that the whole history of independent media may disappear because of prevailing economics and lack of attention. He reminded colleagues that there is a whole intellectual tradition of dealing with the organization of information. Individuals responsible for video collections can borrow upon the systematic approaches and expertise of film and print archivists. "People do not have to reinvent the rules," he said. Archive consultant Alan Lewis similarly urged people to associate with professional archive organizations on the local, regional, and national levels. Organizations like the Association of Moving Image Archivists (AMIA) offer basic manuals and documents outlining

tried and true steps for dealing with collections.

CONSERVATION TECHNOLOGY

The first of two afternoon programs led participants through the complex realm of conservation technology. Panel moderator Leanne Mella surveyed video facilities in the metropolitan New York area, which range from full-service outfits—equipped with obsolete formats, time base correctors (TBC), signal processors, and the latest formats for remastering—to small facilities where you supply the obsolete format. Unfortunately, she found there is not much difference between the low- and high-end costs for preservation. Comprehensive costs range from \$200 to \$300 an hour to clean, restore and remaster a tape at a commercial facility. Most nonprofit facilities offer simple cleaning of 1/2" AV tapes and remastering onto 3/4" without a TBC—a fairly low-cost method for preservation since it is the price of remastering to contemporary formats that adds on the big bucks. In surveying users moderator Mella discovered institutions with large collections often falter in starting up a preservation effort when faced with the high cost of cleaning and remastering as many as 500 tapes earmarked for rescue. Many people said they were waiting for reliable solutions priced within their means.

CLEANING SOLUTIONS

David Shulman provided an illustrated demonstration of the equipment and techniques he developed for cleaning 1/2" open-reel videotapes. Faced with combing through hundreds of portapak-era tapes that would not play, Shulman researched a reliable, affordable method for cleaning and remastering, calling everyone he could think of—Independent producers, tape manufacturers, even NASA, which had faced unique restoration problems when its oxide tapes were submerged in the Space Shuttle disaster. This trail led him to consider 1/2" computer data tapes which predate hard and floppy discs. Both video tapes and computer tapes share a common problem—"stiction"—in which contamination of early formula tape stock causes the back to adhere to the oxide. Shulman found a company that manufactured a machine used for maintaining computer tape, experimented and adapted its design to accommodate video, and consulted an engineer who made the modifications.

His system incorporates self-forwarding dry wipes for both top and bottom sides of the tape and crystal blades which move against the surface of the tape, removing anything above the surface but leaving the oxide intact. (The tape is run both ways until all the debris comes off the tape.) No liquid cleaning solutions are used. He supervised the system design for torque and tension speed required for videotape and also developed a simple method for transferring open reel videotapes onto computer reels. His machine has an electric eye that detects imperfections such as severe head damage or holes in the tape: it stops the tape and lets you diagnose how to fix it.

Since remastering is expensive, Shulman had to be selective. Once tapes were cleaned, he did one playback and videotaped the original program off the monitor. Plugging in time code for editing, he used the off-screen copies to do his fine cut, then went back to the originals, locating precise sections to remaster. If he had it to do over, he said he would have added a VHS feed from the playback deck, producing a second-generation copy of the historic material in addition to the off-screen copy with time code. In lieu of finding hard-to-come-by early model TBCs,

Shulman used a hi-end TBC with full window correction capabilities and frame storer capacity. Some tapes required a proc amp first whereas others (notably CV tapes, which are particularly TBC-unfriendly), had to be transferred onto another format, like Umatic or Betacam, before putting through the TBC. Even tapes with stretching problems proved susceptible to super TBCs.

A common myth, according to Shulman, is the tape that will play back only once. This is something he never encountered nor did he run across tapes with blocking, a problem peculiar to acetate, where due to excessive heat exposure a tape actually melts.

Shulman explained his basic rule of thumb: "If a tape will playback and you can watch it on the monitor before you remaster it, even if you encounter lots of problems when you try to put it through a TBC, the chances are good that if you really have the time, patience, budget, and right equipment, you will ultimately be able to remaster just about anything that will play back." He remastered tapes within six months of cleaning but noted some required re-cleaning due to the on-going process of self-contamination, and so he suggested remastering as soon as possible after initial cleaning.

TO LAST PERFECTLY FOREVER

Video engineer and consultant Mark Schubin, the symposium's "Mr. Wizard," provided an illustrated technical lecture on video tapes and discs. Schubin began by differentiating the three media involved when archiving video: the medium the artist used, the one the archive has selected to preserve the artist's work, and the one the exhibitor uses to circulate it. Often the ideal format choice for these three uses will not be the same. Since no video medium has lasted more than 30 years, chances are good that the artist's medium will not be the medium the exhibitor or archivist chooses. Other criteria such as cost, speed, flexibility, and capacity will dictate format. Exhibitors will also be influenced by such factors as simplicity of use, commonality, and repeatability of playback. When the medium for each use is not the same, one runs into transformation loss (using one format to store another) as well as generation loss (degradation caused by copying a tape).

Schubin weighed the advantages and disadvantages of the various existing formats for preservation. Although 35mm black-and-white film can last 100 years and probably 200, since silver halide as an image-storing mechanism has been around nearly that long, its disadvantage is transformational loss. Transferring video to film changes it most from what the artist intended. The advantage to using optical disc is that it is a no-contact medium. The player will not hurt the disc and flinging discs like frisbees will not hurt them much either. But discs have the shortest history (since 1978), and they have already developed major problems. Thus tape is the most likely candidate for a video preservation medium, even though no one can say how long it will last.

Video is an endangered medium...preservation must become a national priority

TAPE AND ITS AFFLICTIONS

Videotape is comprised of at least two layers: (1) the magnetic layer or paint, which consists of

pigment (ie. magnetic material) and binder (a combination of glue, lubricant and anti-fungal agent that holds magnetic material down on the tape and goes through the machine without binding it; it is the secret ingredient, what makes each manufacturer's tape different from another's); and (2) the base, the plastic film of the tape, usually a polyester and the thickest part. The base often has a back coating, a sort of lubricant, which provides optimal friction and is also conducive (which means it deletes the static electricity charge and prevents attraction of dirt). In addition, there are also layers of air between the layers of tape, highly important when the tape is stored.

Magnetic material possesses two important properties: coercivity—how much magnetic force it takes to erase tape, and retentivity—how much recorded magnetism you are left with after you record the tape. Both are determined by format. So long as you are dealing with oxide tape, there is no cause to worry about the magnetic material: it will not get erased. It would take a tremendous amount of magnetic force for tape to start losing its magnetism. 10

The only serious magnetic problem is print through, the magnetization of one tape layer by another. For audiotape, it is noticeable when you get a pre-echo—a muffled sound that precedes the recording. This occurs only at longitudinal audio frequencies and is a problem for ordinary audio recorded on videotape but not for digital audio on videotape. For analog video, print through's effect is increased noise; for digital video, it is increased errors. Print through is always worse heading towards the outer layer of tape. Leaving the tape tails out, then rewinding to play back will reduce the occurrence of print through.

Binder deterioration is caused by hydrolysis, when water breaks down into a hydrogen ion and a hydroxyl ion and causes chemical deterioration. Very high humidity and condensation are the chief culprits, causing softening and brittleness. High temperatures also cause shedding (loss of oxide from the magnetic layer), which is not so serious because it is the upper level of the oxide, and adhesion (sticking between layers of tape). Stiction, a contraction of stickiness and friction, can be caused by either the binder being soft and sticky and grabbing onto things or the binder being soft and pressed extremely smooth in storage. Metal tape has no binder, which could be great, since the binder is unquestionably the worst factor for tape storage. But metal tape has an even shorter history than oxide tape, and in that brief history problems have occurred. Another common binder problem for videotapes made prior to 1970, before antifungal agents were added, is the growth of mushrooms on the tape.

Since the base produces static, it attracts dirt—tape enemy number one. Other problems caused by the base include deformation, when the tape is wrinkled or cinched (a problem most likely to affect tape made before the addition of back coating, which reduces static by reducing the charge). Stretch and shrink are not critical problems, since most TBCs can handle them, but sudden temperature change can lead to cinching since the hub of the reel will expand or contract at different rates than the tape, causing it to stretch or loosen and eventually cinch. A stiff tape, which people like for editing, may not make contact in the edges on a stationary head, causing poor audio and even poor control track response. This will make a tape unplayable when there is nothing wrong with it beyond a head-contact problem. The 3M Company will groove the head so tape edges fall at this point: the head will wear but uniformly because of the grooves.

WET OR DRY?

Schubin opposes using chemical cleaning agents on old formats, explaining that introducing a new chemical factor into the unknown binder is just asking for trouble. (11) However, "As far as nonchemical cleaning goes, I'm not at all opposed to it," Schubin said, recommending something like Shulman's design, where the cleaning gauze is constantly moving to get rid of the bad material. Schubin recommended 3M's publication "Evaluating the Evaluators," which rates good and bad cleaners and explains how they work. Schubin did not suggest cleaning a tape every time it was played, but first time out of the archive was probably a good idea.

Cassettes and reels are the source of several problems. U-matic cassettes lack a lock, so reels are free to move around in storage, which can cause cinching. Open reels are subject to adhesive residue. If a piece of adhesive was attached to hold the tape in place, Schubin recommends snipping off two inches, the only sure way to get rid of the adhesive. Other problems encountered include lack of protection from dirt (exempt are D2 and D3, which completely seal the tape), mechanical deformation, improper manufacturing and design of reels, and thermal deformation (eg. when you leave a tape in a sunny car window).

Tape is the most likely candidate for a video preservation medium, even though one can say how long it will last.

PLAYBACK MACHINES

Schubin does not recommend using any intercept cleaner on the playback machine. Commercial cassette cleaners invariably scrub away dirt from the center of the head and push it up and down into the grooves, clogging them. Dirt clogged on the heads then passes onto the tape which may cause it to fail to play. Instead, Schubin recommends cleaning the machine yourself with the proper cleaning swabs or, better, since tape is abrasive and cleans the heads through normal play, run a blank stiff tape like Sony's D16, but not too often or it will wear down the heads.

The playback machine can cause wind problems. Popped strands, when one strand of tape pops up on a coiled tape, can cause serious edge damage. Since the audio or control tracks are recorded on an edge, damage to the edge can affect the machine's ability to read the control track. Other wind problems include stepping, when a whole bunch of strands move out of alignment, and windowing, when a tape does not wind smoothly, causing a little window so you can look through the tape to the other side of the reel. The latter is not a problem until you put the tape into storage where it can fold over on itself and cause deformation. When it comes to tension, too much causes stretching and too little causes cinching. Machine wear will cause tape stretch, poor wind, poor head contact, scratching and bad tape geometry. Mechanical and thermal stress can also be caused by the machine if something worn causes more friction than the tape can tolerate. Lastly, machines offer poor protection from dirt.

The easiest problem to fix is horizontal orientation of tapes. Never store a tape horizontally, always store vertically. Horizontal storage means winds will separate, causing stepping and edge damage.

ARE YOU COMFORTABLE?

Regarding thermal shock, very high temperatures (in excess of 120° F) will progressively cause cassette deformation, adhesion between layers, stretching, and eventual shrink. Never put a tape in an oven to dry it. Relatively high temperatures will affect creep, print through, and shrinkage. Conversely, low temperatures (in excess of -40° F) will cause a brittle binder and some base shrink. The higher the humidity, the more severe the hydrolysis, the greater the risk of tape stretch. Low relative humidity causes static buildup. If you keep your archive at a very low humidity, you will need two days before playing a tape to allow it to adjust to playback conditions.

According to Schubin, ordinary magnetic fields are insignificant as are radiation fields. (To hurt your tape, it would take more radiation than would kill 250,000 people.) Schubin offers this general rule of thumb: When you are comfortable, so is your tape. That is not the ideal condition, which is to store it at low temperature and low humidity. At least try to ensure a normal environment with air conditioning and reasonable humidity.

DISC, DISC

Laser disc (which includes CD-V, CD1, CDTV, CD-ROM, and photo CD) has been around for 15 years, and four problems have already been found: (1) oxidation of the aluminum reflector, causing dropouts to become severe (Kodak has switched to gold for its photo CD); (2) delamination or separation of the reflector whereby the reflector moves and the disc cannot be played back; (3) occlusion of the protective coating, which happens when the disc gets scratched or dirt gets on it (dirt can be washed off a disc, but if you do not wash it, then it can eat into the plastic); and (4) severe warping, which is rare.

Currently the most popular disc is the magneto-optical disc, a form of optical recording where a laser is used to heat a spot above the Curie point, allowing an external magnetic field to affect its magnetism as it cools. All erasable discs use some version of this process. It may prove wonderful, but we have no experience over time with it as yet.

CHOOSING A REMASTERING FORMAT

When deciding which video format to choose for remastering, there are both technical and nontechnical considerations. What did the artist shoot in originally? Are there operator parts and services available? Can you exchange the tapes with others? Is the equipment commonly available? You must also decide on analog versus digital, composite versus component, and how much quality you want. When you digitize an analog signal, there will be a transformational loss. Otherwise, digital is a magnificent format, allowing you to make clones—copies with no generational loss, often surpassing the original with error correction and perfect digital signal added. The problem with digital is that it costs more and takes up more space than other formats—but this will change soon. Choosing composite versus component depends primarily on which format the artist used originally. If the artist shot in component, to preserve that quality you need to archive in component.

Schubin believes the future is in cassettes. Even discs will be in cassette form to avoid dirt and scratching. Magneto-optical discs are already in cassettes. There is an unquestionable trend towards digital tape and, for discs, the magneto-optical format, because it is erasable and recordable. Also on the horizon are coding techniques that will allow a CD-sized disc to record two-to-four hours of video, as well as perpendicular or quasi-perpendicular recording. Orienting magnetic information perpendicularly takes up less space, allowing you to pack in, say, a year's worth of recording onto a single VHS cassette. Currently this can be done on floppy disc, but not on a helically-scanned tape recorder. As for high-definition TV, it presents many more problems, according to Schubin, who claims it will not solve any of those you have right now. (12) He concluded that wood, glass and metal shelving were equally good for storage.

GETTING SPECS

Following Schubin's presentation, participants elaborated on a wide range of technical considerations. In response to archive consultant Alan Lewis' question about what equipment should be included in the written specs for a preservation job, Leanne Mella explained that some facilities charge extra for certain equipment, like frame synchronizers or infinite window TBCs. Others charge a flat rate (eg. \$150 an hour) that includes all kinds of equipment. Find out what is being offered and then decide if it meets your needs, she advised. She added that she chooses a facility she has confidence in, has them evaluate a tape, alert her to any extraordinary measures and expenses, and provide an estimate. David Shulman disagreed, finding an evaluation phase unrealistic. "It requires as much time and effort to evaluate an old tape as to fix it," he commented. "If you don't let the (original) tape run continuously from beginning to end, you will positively damage the tape and cause dropout wherever you stop it—severe damage at worst, minor dropout at best."

Tony Conrad lobbied for his own process of lubricating tape with a molecular-thin layer of silicon in lieu of abrasive cleaning. His aim is to get the tape moving on the heads more easily, avoiding what he termed "more exotic processes" and greater costs.

100 YEARS OF PRESERVATION?

When asked how long a 1" preservation master can last under optimum storage conditions and how long before it must be migrated to another medium, Schubin replied, "If storage is done right, most tape manufacturers say you'll get 100 years out of the tape." Asked whether 1" tape is optimal, he added, "If you're making a 1" tape and buying a bunch of 1" machines (so you'll always have them after the 1" format goes away) and you're maintaining those machines perfectly and storing the tape perfectly, it is arguable that 1" is slightly better than D2, because you can get TBCs for 1" that have greater detail than D2. But if any of those conditions are not the case, then—other than the fact that we have no history with them—either D2 or D3 would be better for composite and D1 for component."

Shulman added a pitch for a smaller format. "VHS is a surprisingly forgiving medium. It's not trying to lock into the servo or the signal. Without any TBC—dirt cheap—you can usually get a good transfer of open-reel tapes to VHS. You can't really edit it with color material or broadcast

it. But you'll generally get a stable image relative to the original. We're talking about low-definition TV—250 lines of resolution. So you don't actually lose a lot of definition when you go to VHS. The decision is really about what you can afford."

FUNDING

The New York State Council on the Arts (NYSCA) is one of the few funders that has had a category of support for video preservation within the last three years. In her presentation, NYSCA's Deborah Silverfine stressed the need to rethink how to go about finding funding sources. The New York Council for the Humanities told her they were interested, and the New York State Library reported it has funds for preservation of materials, but they do not get many applications. The NEA has funded preservation through its Folk Arts, Media Arts, Dance, and Museum programs. NYSCA has funded studies and pilot projects for low-cost cleaning and remastering and assisted organizations in their storage, cataloging, and remastering projects. Another source is the National Historical Publications and Records Commission, an agency of the National Archives. The National Endowment for the Humanities (NEH) has preservation in its guidelines, but rarely funds it. The video they have funded relates to oral history and local history.

Silverfine noted that funders care about audiences, urging tying preservation projects into exhibitions. "Taking work past the preservation stage to creating an audience and a literature for it is attractive to funders, not only in the arts but also in the humanities," she said. NYSCA staffer Gerald Lindahl remarked that there are also archive-specific funding sources. "If you are an archive or even look like an archive, you can ask for archive-related support." But he warned against approaching a funder saying, "I want to preserve all my tapes," since open-ended projects attract no support. It is far better to make a selection of tapes based on a historical rationale or identifiable framework.

Gregory Lukow, deputy director of the National Center for Film and Video Preservation (NCFVP) in Los Angeles, added a number of points about the difficulty of funding video preservation. "The last seven or eight years' experience has shown that developing new private funding for moving image preservation—which is what the NEA had in mind when [NCFVP] was created—has proven very difficult. Ironically, we are now going back to other avenues within the federal government. We think the NEH's Office of Preservation is a well-funded division. They've been concentrating on newspapers and brittle books, but our discussions with the director have led him to be more interested in funding moving image preservation." Lukow continued, "A number of preservation projects were funded through access categories of various federal agencies, in part because they don't quite know yet what videotape preservation is. They're confident about extending public funds for film preservation, because it promises a long-term payoff of hundreds of years, but there's no such promise with video preservation."

The NEH rejected NCFVP's application for a grant to develop a national public policy statement on moving image materials, with special emphasis on television and videotape preservation. But the NEH will entertain another application NCFVP is sending to the field for comments. "It's up to the independent video community to address its concerns in this early stage," he concluded.

"Video preservation has not become as strong as film preservation because the field hasn't put

pressure on institutions—whether governmental, private, or otherwise," MoMA director of film Mary Lea Bandy forcefully added. "Some organizational means should be pursued to get lobbying efforts heard around the country."

PROPOSALS AND INITIATIVES

The symposium concluded with participants discussing ideas for new initiatives. Archivist Rick Prelinger urged the formation of a self-supporting Consortium for Safe Storage of Magnetic Media, which he saw as one way of avoiding the ever-shifting political decisions on what tapes get saved. Although many were enthusiastic about the idea, librarian Mary Keelan criticized the solution for avoiding issues raised earlier. "Without some centralizing of information," Keelan worried, "the world will never know what exists and where it is." David Shulman raised another concern. Storing quantities of tapes in a single facility dependent on public funding and non-profit support poses an inherent, long-term risk: "What happens," he asked, "if you have a warehouse of tapes, and you can no longer maintain the facility?"

Robert Haller, general director of Anthology Film Archives, surprised the audience with an offer to store tapes in the archive's on-premise, climate-controlled facility. He quickly clarified that he was not promising to clean and remaster tapes "in 15 minutes," but simply provide storage space for work that could eventually be cataloged and remastered when time and money permitted. His object was to keep people from trashing their tapes.

ARCHIVE OPTIONS

Such storage space is critically needed. As Buffalo media professor Gerald O'Grady lamented, major collections are being lost because archives are not willing to accept them. O'Grady cited the difficulties experienced by the families of the late video artists Ed Emshwiller and Stan VanderBeek in locating appropriate archives for their collections. O'Grady noted that filmmaker D. A. Pennebaker has established a foundation in New York City called Living Archives and is accepting historic work for storage. Other storage options may be available at the Visual Studies Workshop in Rochester and Pacific Film Archive in Berkeley, California, although no firm offers were put on the table.

When selecting off-premises storage sites Alan Lewis counselled people to check the building's location—eg, is it near a railroad track where a propane tanker could torch it? Make sure environmentally sound storage can be proven. Have them deliver hyrdo-thermographic graphs regularly. Know what goes on in storage on weekends and overnight. Go there occasionally: check if overhead sprinkler pipes or air conditioner condensing units leak onto tapes. "And by all means, disperse your collection. Don't keep your masters and your distribution tapes in the same place. It's only asking for trouble," he emphasized.

Never store a tape horizontally, always store vertically. When you are comfortable, so is your tape.

NATIONAL MOVING IMAGE DATABASE

One major initiative currently underway is the National Moving Image Database project of

NCFVP. The goal of NAMID director Margaret Byrne is to catalog 22,000 titles of video art. Each entry will provide title, maker, running time, and numerous other fields of information, including who holds the tapes. The database currently has 6,500 titles, reported Byrne, who has targeted 10-12,000 titles by year's end. To help her assemble a master list, she appealed to those with information about historic tapes to contact her. Such information would give NAMID an invaluable reference point for identifying "lost" titles and forgotten works.

MoMA's Barbara London observed at the end of the long, productive symposium that "What we have been talking about all day is trust." Whether finding equipment buried in a SMPTE engineer's garage, getting cataloging information from elusive artists, unearthing lost tapes and hidden archives or lobbying federal agents and private funders to allocate monies for urgent preservation needs, video preservation requires trust among people working together to secure a vulnerable and significant history now and for future generations.

10 An exception to this rule occurs in libraries where demagnetizers are used to strip off magnetic coding used to help control the theft of books, magazines, records, etc. When videotapes are subjected to such devices, their magnetic material is endangered.

11. Other experts disagree with Schubin's caveat, citing their own success at using various proprietary wet cleaning solutions to attack specific tape cleaning problems.

(12) Since the symposium, several new formats have appeared. D5 is the latest digital format, joining D1, D2 and D3. All of these are "robust" and present no special problems, according to Schubin. There are two dramatically different formats on the market: DCT and Digital Betacam introduce compression, a new feature in video recording, and one which will require different thinking, especially when it comes to archival questions.

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